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Range extension of *Periophthalmodon septemradiatus* (Gobiidae) in southern Sumatra, Indonesia

by

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Résumé. – Distribution de *Periophthalmodon septemradiatus* (Gobiidae) à Sumatra, Indonésie.

Un spécimen de *Periophthalmodon septemradiatus* a été capturé et photographié en septembre 2017 dans la rivière Musi, province du sud de Sumatra, en Indonésie. Ce spécimen représente le premier signalement de *P. septemradiatus* pour Sumatra, étendant ainsi sa répartition de 450 km au sud de sa distribution connue.

Key words. – Gobiidae – *Periophthalmodon septemradiatus* – Indonesia – Musi River – Freshwater – Range extension – Distribution.

The oxudercine gobies (Gobiidae: Oxudercinae) is a subfamily of gobiid fishes also known as mudskippers (Murdy, 1989; Takita *et al*., 1999; Polgar and Khaironizam, 2008), found in soft bottom intertidal areas and mangrove swamps of the Indo-West Pacific, except for one species known in tropical West Africa (Murdy, 1989). They have colonized the entire intertidal gradient, from the subtidal to the supratidal zone, through various adaptations to an amphibious life style (Polgar, 2008).

The mudskipper genus *Periophthalmodon* Bleeker is represented by three species: *Periophthalmodon freycineti* (Quoy & Gaimard, 1824), *P. schlosseri* (Pallas, 1770), and *P. septemradiatus* (Hamilton, 1822) (Murdy, 1989; Khaironizam and Norma-Rashid, 2003). This genus is unique among oxudercines in possessing two rows of teeth in the upper jaw, and in having a black stripe running posteriorly from the eye to the caudal peduncle (Murdy, 1989). However, this black stripe for *P. septemradiatus* can vary from the other species; starting from the eye and terminating under the end of the second dorsal fin (Khaironizam and Norma-Rashid, 2003).

P. septemradiatus has been reported from the northeast coast of India, Myanmar, the Gulf of Thailand, the Malaysian Peninsular and Borneo (Murdy, 1989; Khaironizam and Norma-Rashid, 2003). Koumans (1953) stated this species occur in Sumatra, but it is not taken into account by some authors (*e.g*. Murdy, 1989; Kottelat *et al*., 1993), until it was found in Tebing Tinggi Island, Riau Province (Takita *et al*., 1999). It has also been observed and collected in lower Batang Hari River, Central Sumatra, Jambi province (Tan and Kottelat, 2009; Dr Tan Heok Hui, Pers. Comm. to MI)

A specimen of *P. septemradiatus* was recently collected from the Musi River (South Sumatra Province, Indonesia) – the southernmost record for Sumatra. This increases this species known distribution southwards by 200 km.

RESULTS AND DISCUSSIONS

The specimen of *P. septemradiatus* was caught on 16 September 2017 using a hand net during a survey sampling for fish species on the Musi River (3°00’32.1”S, 104°42’43.6”E), in Palembang City, South Sumatra, Indonesia. The specimen was caught in a freshwater swamp with a soft muddy bottom at the riparian zone of the Musi River (Fig. 1). At least five individuals were observed but it was only possible to capture one specimen. The captured specimen was measured and photographed, and then released in the same location. The total length of this specimen was 12 cm.

P. septemradiatus is distinguished from all other *Periophthalmodon* and relatives by a combination of the following distinguishing marks: grey to brownish body; dusky grey head; numerous pale red, blue and dark spots from snout, opercle and trunk; no pelvic frenum, pelvic fins completely separated; scaleless snout, isthmus completely scaled; large and cycloid scales on entire body; two rows of teeth in the upper jaw, small caniniform anterior teeth in the outer jaw with the smaller teeth in the inner row; the first dorsal fin is very colourful and moderately high with a concave mar-

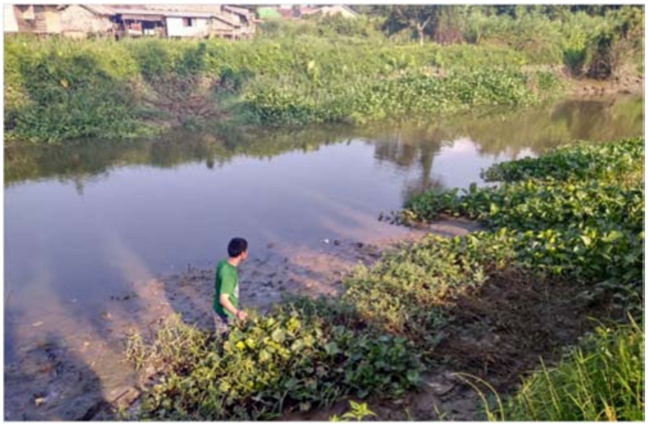

Figure 1. – The habitat where *Periophthalmodon septemradiatus* was caught on 16 September 2017, in the Musi River, Palembang City, South Sumatra Province, Indonesia. Photo A. Halim.

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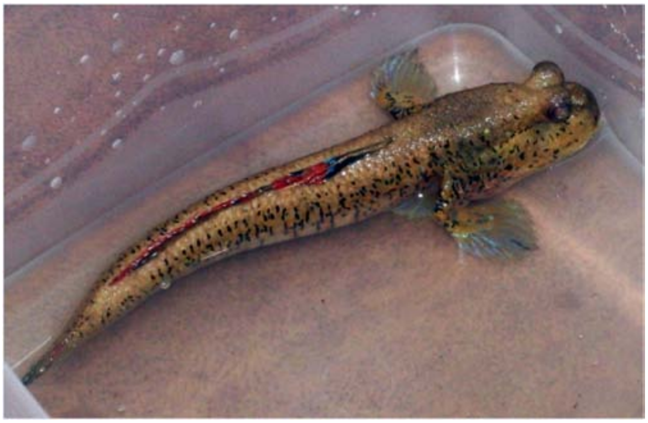

Figure 2. – The specimen of *P. septemradiatus* caught in the Musi River, Palembang City, South Sumatra Province, Indonesia. Photo M. Iqbal.

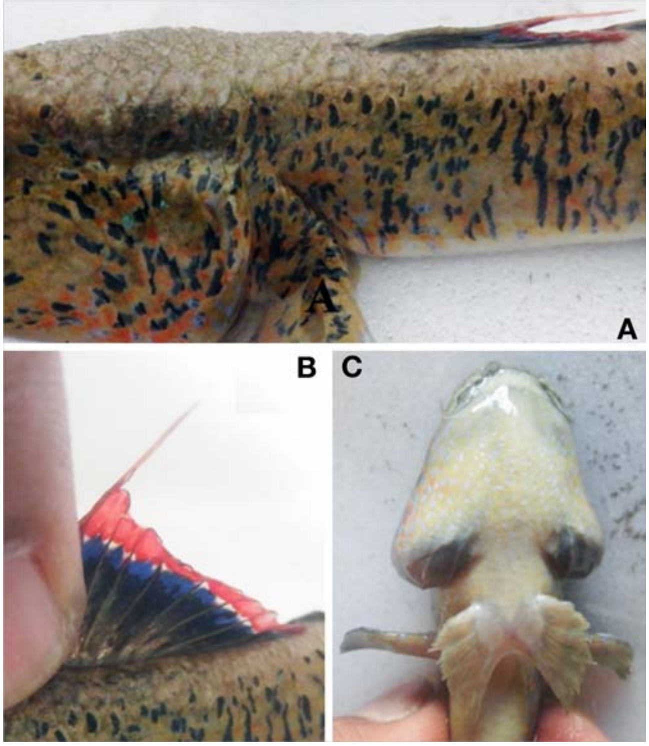

Figure 3.– *P. septemradiatus* caught on the Musi River; (**A**) dorsal-lateral view (**B**) first pectoral fin (**C**) ventral view showing pelvic fins. Photo M. Iqbal.

gin and an elongated first spine with 12 unbranched spines; the first and second dorsal fins are contiguous (Murdy, 1989; Kottelat *et al*., 1993; Takita *et al*., 1999; Khaironizam and Norma-Rashid 2003; Polgar, 2014). The specimen caught in the Musi River was identified as *P. septemradiatus* because it met the criteria described above (see Figs 2, 3). Our identification was further confirmed by Dr. Gianluca Polgar (Pers. Comm. to MI).

The finding of *P. septemradiatus* in the Musi River is a significant distribution record for Sumatra, Indonesia. The first confirmed record of *P. septemradiatus* in Sumatra was reported from Tebing Tinggi Island, Riau Province (Takita *et al*., 1999); and then, following record from lower Batang Hari River, Central Sumatra, Jambi province (Tan and Kottelat, 2009). The new record is probably not due to recent colonization of this area but it is likely that it was not reported so far because the South Sumatran waters remain under-explored. For instance, recent works show that few species are known to occur locally but still lack record publication, such as *Fluvitrygon oxyrhynchus* and *Urogymnus polylepis* (Iqbal and Yustian, 2016; Iqbal *et al*., 2017).

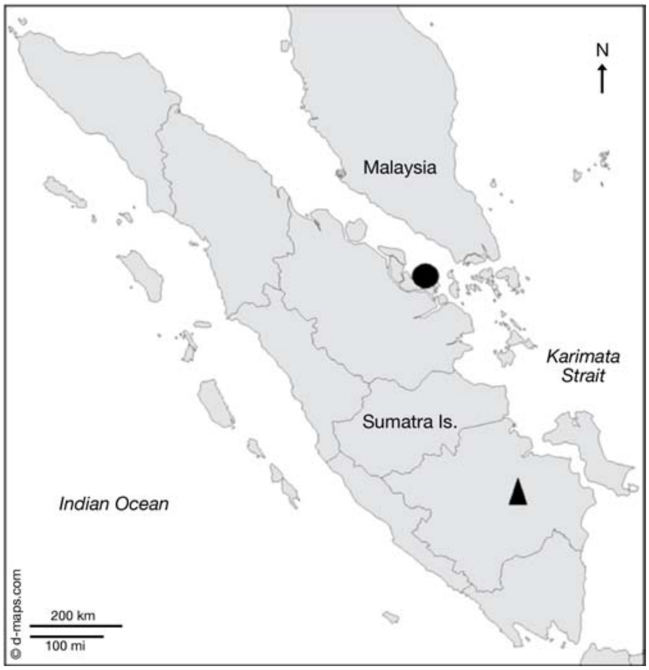

Figure 4. – Location of the first *P. septemradiatus* caught in mainland Sumatra. Black circle shows previous record from Tebing Tinggi Island, Riau Province; and black triangle shows recent record from Musi River, Palembang City, South Sumatra Province, Indonesia.

The occurrence of *P. septemradiatus* in the Musi River represents a significant range of extension of *P. septemradiatus* for mainland Sumatra. This significantly increases this species known distribution southwards 200 km from Batang Hari River (Fig. 4). The Musi River should now be considered to be the southern border for this species range as it has not been located in surveys further south and east in the Sunda Islands (Konstantinidis *et al*. 2016; Zamroni *et al*., 2016; Sihombing *et al*., 2017).

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